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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/664,249 | 09/16/2003 | William M. Fries | 81002/5102 | 3738 |
| 22242 | 7590 | 01/24/2005 | EXAMINER | |
| FITCH EVEN TABIN AND FLANNERY 120 SOUTH LA SALLE STREET SUITE 1600 CHICAGO, IL 60603-3406 | | | LAWRENCE JR, FRANK M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1724 | |

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,249

Applicant(s)

FRIES ET AL.

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-18 and 21-31 is/are rejected.
- 7) ☒ Claim(s) 8-10, 19 and 32 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. This refers to the references on pages 13-15.

Specification

2. The disclosure is objected to because of the following informalities: In line 1 of claim 20, "a liquid" should be changed to "a fluid" to remain consistent with the rest of the claim. In line 6 of claim 20, "to" should be inserted after "the fluid" to clarify the claim. These are assumed for examination.

Appropriate correction is required.

3. Claim 17 is objected to because of the following informalities: Claim 17 is a duplicate of claim 7 because they both depend from claim 1. Claim 17 should be amended to depend from claim 11. This is assumed for examination. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 21 and 22 recite the limitation "the light source" in line 1 of each claim. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 23 recites the limitation "the treatment lamp" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claim 24 is rejected for depending from a rejected claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 11, 13, 14, 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hlavinka et al. (2003/0205454).

10. Hlavinka et al. '454 teach a system for fluid treatment, comprising a treatment chamber (12), UV lamps (22, 31) located inside or outside of the treatment chamber for irradiating fluid in the chamber, and a plurality of light transmissive baffles (18) for controlling fluid flow within the chamber, wherein the UV lamps emit radiation at a fixed wavelength of about 300-500 nm (see abstract, figures, paragraphs 0011, 0026, 0027, 0031).

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11. Claims 1, 3, 4, 7, 23, 25, 27, 28 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Latel et al. (4,825,083).

12. Latel et al. '083 teach a system for treating water flowing in a chamber, comprising providing a plurality of UV lamps immersed in water in the chamber and controlling the number of UV lamps that are immersed to match the flow rate of water through the chamber in order to maintain a constant level of treatment (see abstract, figures, col. 2, lines 1-5 and 52-68). The UV lamps emit radiation at 254 nm (col. 4, lines 47-52).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Latel et al. '083 in view of Dunn et al. (5,900,211).

15. Latel et al. '083 disclose all of the limitations of the claims except that the light source is a broad spectrum pulsed light source. Dunn et al. '211 disclose a system for deactivating microorganisms in water using a broad spectrum pulsed light source (abstract, col. 2, lines 11-28). It would have been obvious to one having ordinary skill in the art at the time of the invention to use the light source of Dunn et al. in the system of Latel et al. in order to provide a source that is faster and more effective at killing certain types of bacteria and viruses in the water.

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16. Claims 5 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Latel et al. '083 in view of Albelda et al. (5,925,257).

17. Latel et al. '083 disclose all of the limitations of the claims except that the light source is a mercury gas lamp. Albelda et al. '257 disclose a system for removing biofilm from an aqueous liquid using a mercury gas lamp (abstract, col. 4, lines 49-67). It would have been obvious to one having ordinary skill in the art at the time of the invention to use a mercury gas lamp in the system of Latel et al. in order to provide a lamp that is known to transmit germicidal UV emission.

18. Claims 6 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Latel et al. '083 in view of Stanley, Jr. (5,120,450).

19. Latel et al. '083 disclose all of the limitations of the claims except that the light source is a pulsed laser. Stanley, Jr. '450 disclose a system for decontaminating a liquid using a pulsed laser (col. 2, lines 23-40, col. 4, lines 44-56)). It would have been obvious to one having ordinary skill in the art at the time of the invention to use a pulsed laser in the system of Latel et al. in order to provide a UV source that is not diffuse and does not require a system for collecting and directing the diffuse light.

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hlavinka et al. '454 in view of Dunn et al. '211.

21. Hlavinka et al. '454 disclose all of the limitations of the claims except that the light source is a broad spectrum pulsed light source. Dunn et al. '211 disclose a system for deactivating microorganisms in water using a broad spectrum pulsed light source (abstract, col. 2, lines 11-28). It would have been obvious to one having ordinary skill in the art at the time of

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the invention to use the light source of Dunn et al. in the system of Hlavinka et al. in order to provide a source that is faster and more effective at killing certain types of bacteria and viruses in the water.

22. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hlavinka et al. '454 in view of Albelda et al. '257.

23. Hlavinka et al. '454 disclose all of the limitations of the claims except that the light source is a mercury gas lamp. Albelda et al. '257 disclose a system for removing biofilm from an aqueous liquid using a mercury gas lamp (abstract, col. 4, lines 49-67). It would have been obvious to one having ordinary skill in the art at the time of the invention to use a mercury gas lamp in the system of Hlavinka et al. in order to provide a lamp that is known to transmit germicidal UV emission.

24. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hlavinka et al. '454 in view of Stanley, Jr. '450.

25. Hlavinka et al. '454 disclose all of the limitations of the claims except that the light source is a pulsed laser. Stanley, Jr. '450 disclose a system for decontaminating a liquid using a pulsed laser (col. 2, lines 23-40, col. 4, lines 44-56)). It would have been obvious to one having ordinary skill in the art at the time of the invention to use a pulsed laser in the system of Hlavinka et al. in order to provide a UV source that is not diffuse and does not require a system for collecting and directing the diffuse light.

Allowable Subject Matter

26. Claim 20 is allowed.

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27. The following is an examiner's statement of reasons for allowance: The prior art of record fails to disclose or suggest a treatment apparatus comprising a treatment chamber, a first baffle in the chamber for slowing the velocity of the fluid, a second baffle in the chamber for matching the fluid flow to a fluence profile of light traveling in the chamber, and a third baffle in the chamber for maintaining the flow through the chamber.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

28. Claims 8-10, 19 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

29. Claims 21, 22 and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose UV fluid treatment systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence
Primary Examiner
Art Unit 1724

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Frank Lawrence
1-5-05